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(54) **Indicating and control means in a cooker**

(57) A built-in cooker comprises a glass ceramic hob (2) with cooking zones (4). Arranged in front of the glass ceramic hob is a transparent indicating strip (8), underneath which luminescent diode chains are arranged. The diodes are associated with the cooking zones and are drivable electrically or electronically by way of control members (7) arranged on the front of the cooker.

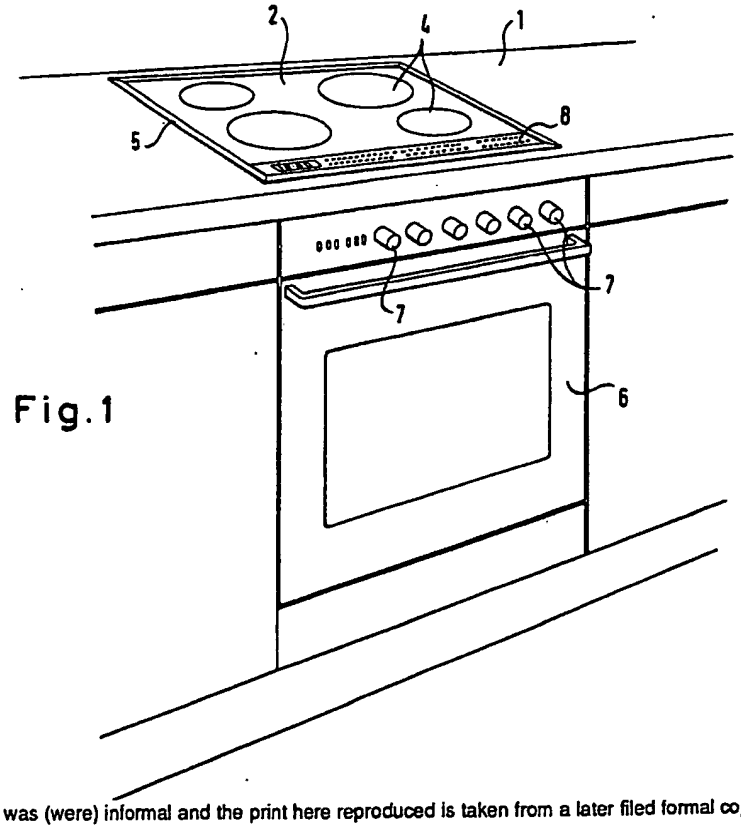

Fig.1

The drawing(s) originally filed was (were) informal and the print here reproduced is taken from a later filed formal copy.

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Fig.1

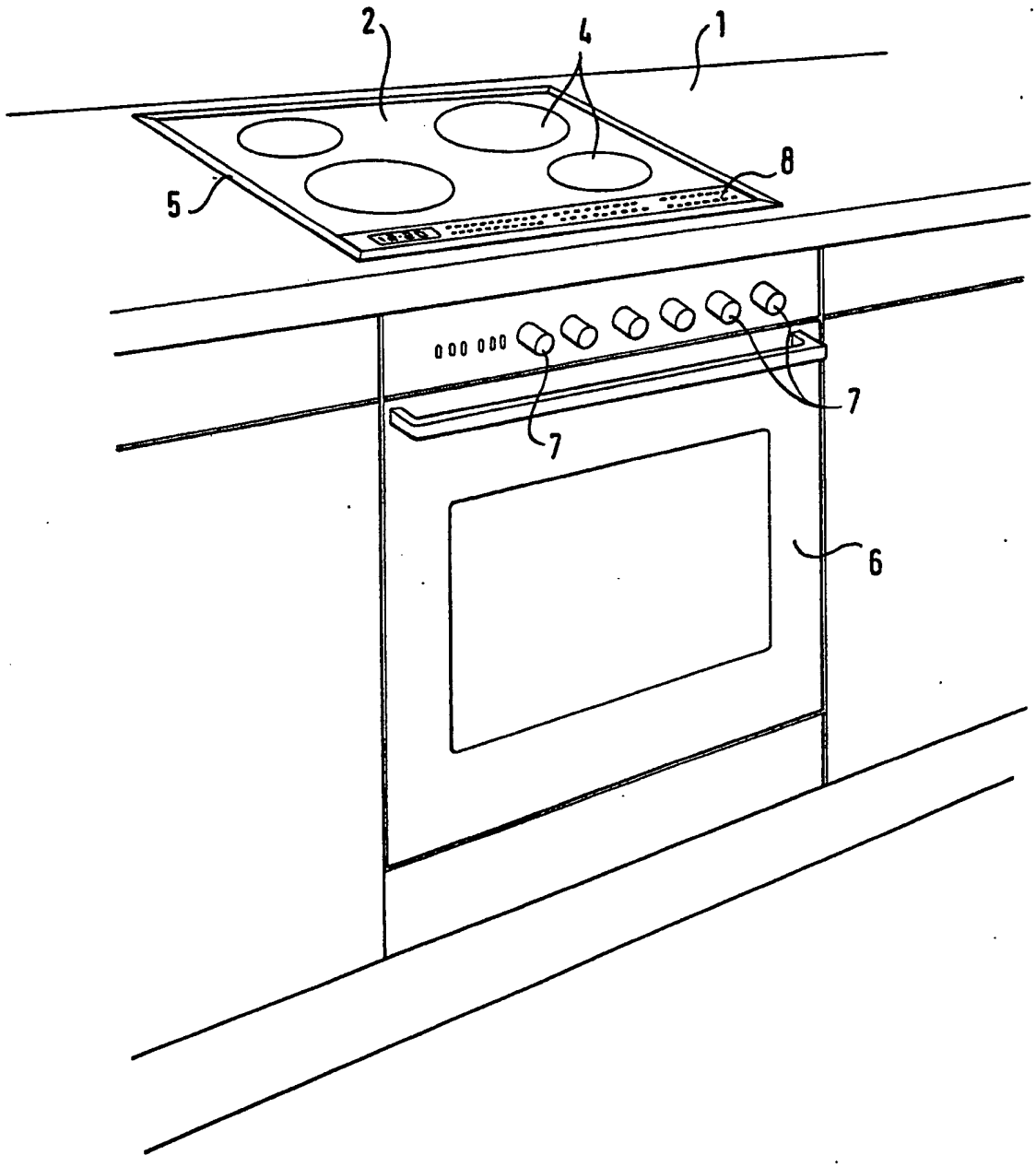

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Fig.2

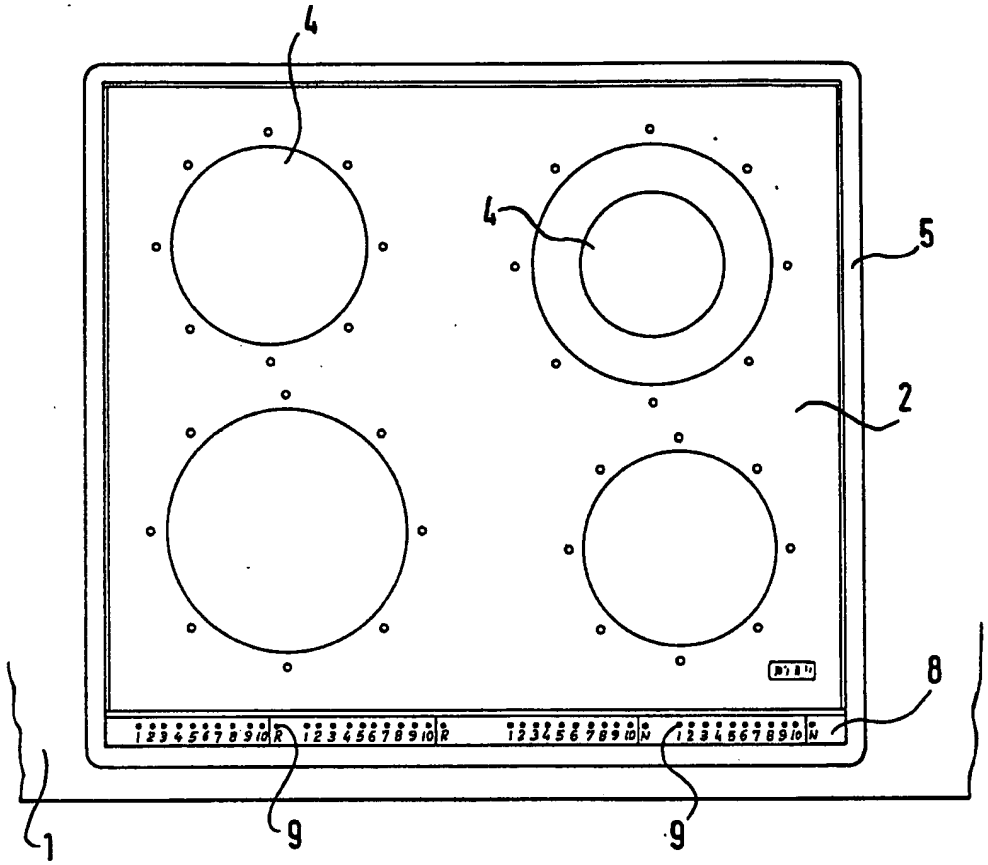
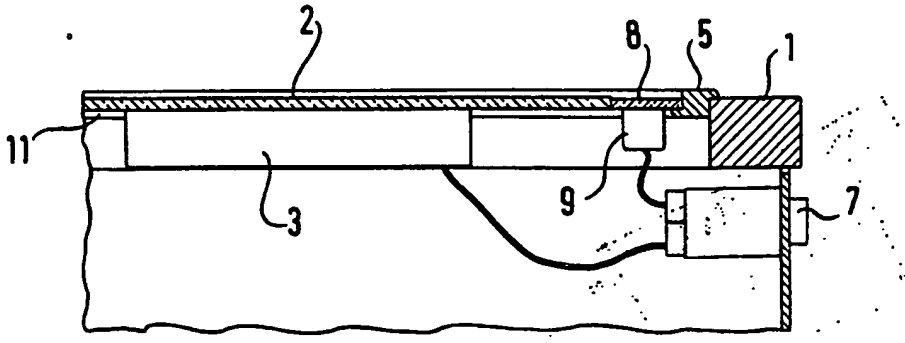


Fig.3



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INDICATING AND CONTROL MEANS IN A COOKER

The present invention relates to a cooker and has particular reference to the controlling of heating elements, especially those associated with cooking zones, of a cooker with manually actuable control members and with a heat-permeable glass ceramic pane, under which the heating elements for the cooking zones are arranged.

In the case of both free-standing cookers and built-in cookers the control members, i.e. the switches in electric cookers or gas cocks in gas cookers, are arranged between the upper edge of a baking oven door and the lower edge of the cooker hob. In that case, they are disposed in a conveniently accessible position. Markings for reading-off switch or cock settings are usually arranged on the control element knobs. Since these knobs in the case of free-standing cookers project beyond the front side of the cookers, the knob markings are easily seen and readable.

However, such an arrangement of control members and indicating means is difficult in the case of built-in cookers. Built-in cookers are normally incorporated below a kitchen furniture worktop and combined with a cooker hob built into the worktop. In that case, the cooker is positioned, for aesthetic reasons, so that cupboard fronts and cooker front form a uniform surface. The worktop, however, normally protrudes beyond this surface.

During use of the cooker, the user usually stands relatively close to the cooker, with the result that the field of view hardly extends to the markings in the region of the knobs.

To overcome this difficulty, it is known to dispose the control members frontally in a cooker hob and in conjunction with indicating

elements which are viewable from above. However, this measure requires that the control members must either be housed in common in the cooker hob, which is not very favourable in terms of construction and operation, or else divided into one group associated with the hob and another group associated with the baking oven, which again is unfavourable for construction. It is also known to house the control members in the front side of the cooker and thus in a position favourable for gripping and the indicating elements separately therefrom and in a position favourable for viewing, for example at the side of the cooking region.

There is thus a need for a cooker for control and indicating means which has a relatively simple construction and which endeavours to meet the requirements of the user in operation of the cooker.

According to the present invention there is provided a cooker comprising a glass ceramic hob, a plurality of heating elements arranged under the hob and operable to heat heating zones thereof, a transparent viewing strip arranged in front of the hob with respect to a front side of the cooker, a plurality of groups of luminescent diodes arranged in a row under the strip and in association with the heating zones, and a plurality of manually actuable control members for controlling operation of the heating elements and of the diodes, the control members being disposed at the front side of the cooker.

In a preferred embodiment the cooker comprises a glass ceramic pane, under which the heating elements for the individual and, optionally also, combinable heating zones are arranged. Mounted in front of the glass ceramic pane at the cooker operating side is a transparent indicating field strip, under which luminescent diode chains are

arranged, which are associated with the heating zones and drivable electrically or electronically by way of the control members which are housed in the front side of the cooker. In this embodiment, although the control members for the entire cooker inclusive of heating zones are arranged uniformly at the front side of the cooker and thus in a position favourable for construction and operation, the indicating means for selected power and temperature values, in particular of the heating zones, is disposed in a position favourable for viewing, thus at the edge region and directly in front of the glass ceramic pane. Further indicating means could be made visible above or through the strip and it still remains possible to dispose indicating means for the baking oven beside the associated control members, as the operation of the baking oven usually takes place with a more remote position of the user, often with the user in a stooping position.

Preferably, the strip is arranged as an independent pane adjoining the glass ceramic pane. This allows freedom in the choice of material and, in particular, the possibility for the strip to be constructed according to its own requirements and to be removable for repair purposes.

For preference the strip is arranged with its upper side in the same plane as the upper side of the glass ceramic pane. In order to prevent scratching of the strip during movement of cooking pots on the glass ceramic pane, it may be advantageous, however, to arrange the strip with its upper side in a plane slightly below the plane of the upper surface of the glass ceramic pane.

The glass ceramic pane and the strip are preferably housed within a common frame, with the pane and the strip supported on a bottom side

step of the frame. Through appropriate choice of the thickness of the strip relative to that of the pane, desired level differences in respect of the upper surface can be provided. With such a level difference, the possibility is offered of being able to move pots free of problems over the region of the strip.

An embodiment of the present invention will now be more particularly described by way of example with reference to the accompanying drawings, in which:

Fig. 1 is a perspective elevation of a built-in cooker embodying the invention,

Fig. 2 is a plan view of the cooker and

Fig. 3 is a sectional view of part of the cooker in the region of operating and indicating means thereof.

Referring now to the drawings, there is shown a domestic cooker which is integrated into a schematically illustrated row of kitchen furniture covered by a worktop 1. The cooker includes a glass ceramic pane 2 with four cooking zones 4 under which are arranged heating elements 3, the pane being enclosed by a frame 5 and let with this into the worktop 1. Arranged thereunder is a baking oven 6 and rotary actuating knobs 7 for the oven 6 and for the heating elements 3. Heating powers or temperature values for the associated cooking zones can be set by way of these knobs.

Mounted in front of the pane 2 at the operating side and arranged within the frame 5 is a transparent indicating field strip 8, under which a respective luminescent diode chain 9 is arranged for each of the cooking zones. According to the setting of the associated rotary knob, which is connected by way of plug connections with the corresponding

luminescent diode chain 9 and the associated heating element 3, and to the wiring of the luminescent diode chain 9, either a luminescent diode corresponding by position within the chain 9 approximately to the set value or a sequence of diodes starting at an origin, lights up. The knobs 7 are operable without special viewing by the user, since the set values can be easily read off from above through the strip 8.

As is evident from Fig. 3, the upper side of the strip 8 is arranged to be slightly recessed relative to the surface of the pane 2. An arrangement with a slight inclination of the strip is also possible. The pane 2 as well as the strip 8 are supported from below by a step 11 of the frame 5. The pane and the strip are sealed off relative to the frame 5 and relative to each other by appropriate measures.

CLAIMS

1. A cooker comprising a glass ceramic hob, a plurality of heating elements arranged under the hob and operable to heat heating zones thereof, a transparent viewing strip arranged in front of the hob with respect to a front side of the cooker, a plurality of groups of luminescent diodes arranged in a row under the strip and in association with the heating zones, and a plurality of manually actuable control members for controlling operation of the heating elements and of the diodes, the control members being disposed at the front side of the cooker.

2. A cooker as claimed in claim 1, wherein the strip is a pane constructed separately of and adjoining the hob.

3. A cooker as claimed in either claim 1 or claim 2, wherein the upper surface of the hob and the upper surface of the strip are coplanar.

4. A cooker as claimed in either claim 1 or claim 2, wherein the upper surface of the hob is disposed in a first plane and the upper surface of the strip in a second plane lower than the first plane.

5. A cooker as claimed in any one of the preceding claims, comprising a single frame enclosing the hob and the strip.

6. A cooker as claimed in claim 5, wherein the strip is supported by a stepped portion of the frame.

7. A cooker as claimed in any one of the preceding claims, comprising

indicating means, additional to the diodes, arranged under the strip.

8. A cooker substantially as hereinbefore described with reference to the accompanying drawings.

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